

Forest for Every Classroom (FFEC) and Park Research Partnership Year End Report 2010-2011

Students in the greater Woodstock, VT area have been given the opportunity to spend more time in their local National Historical Park and become more involved in Place Based Education thanks to the newly developed Park Research Partnership. Developed out of the successful Forest For Every Classroom (FFEC) program, the Park Research Partnership grew from a collaboration of several passionate teachers and the educational program at Marsh-Billings-Rockefeller National Historical Park (MBRNHP). The collaboration has seen the growth of a strong partnership between both systems that has benefited not only the students, but also the greater community.

The Park Research Partnership includes educators and resource specialists from Windsor Central Supervisory Union, MBRNHP, Shelburne Farms, as well as several other Vermont-based organizations and agencies. The Partnership was created to engage Windsor Central Supervisory Union schools in authentic inquiry-based projects to connect students to their community and discover the connection between class room learning and real-world application. Teachers work with local resource experts to develop and conduct their own activities relating to community needs and the Vermont Standards of Learning. Each project also contains a service-learning component where students participate in stewardship work related to their research. Students share their findings through public forums, guided tours, publications, blogs, and other media.

In its third year, the Park Research Partnership involved sixteen teachers from six different schools in the greater Woodstock area. Students from kindergarten to 12th grade participated in a variety of curricula, frequently centering on the park's forested landscape. The diversity in these curricula has included topics ranging from using probability in salamander monitoring to examining art as a result of the freedom provided in Park Research. Several teachers have flourished as a result of the opportunity to create their own curriculum and have earned the distinction of having their project be labeled as "exemplary" by MBRNHP. At the seventh grade level, Debra Pelkey of Woodstock Union Middle School developed the "From Farm to Forest" unit, which served as an introduction to world geography by applying the units themes locally. Through a study of the McKenzie farm on the park's land, students learned how much of Vermont's hillside transformed from agricultural farm to forest. A link to a summary of Pelkey's lesson plan can be found at <http://ffec.pbworks.com/w/browse/#view=ViewFolder¶m=Sample%20Curriculum>.

At the high school level Susan Piccoli, instructor for the 11th grade Honors and AP U.S. History class at Woodstock Union High School has constructed a unit titled "Nature, Art, and Conservation at MBRNHP." By reading George Perkins Marsh's Man and Nature, exploring the forest, pond, and trails, studying the Hudson River School paintings, and more, students discovered how nature inspired artists and how their art helped inspire the conservation movement. A link to a summary of Piccoli's creative curriculum can be found at <http://ffec.pbworks.com/w/browse/#view=ViewFolder¶m=Sample%20Curriculum>.

Another exciting project created through the Park Research Partnership, has been that of Jen Stainton with her 9th grade Integrated Environmental Science class. This group of students from Woodstock Union High School studied the presence of mercury in the environment, particularly within dragonfly nymphs found within the Pogue, a pond within the park's boundaries. In developing her curriculum Stainton worked in collaboration with Acadia National Park's Schoodic Education and Research Center, MBRNHP, and Dartmouth College's Toxic Metals Research Program. After developing their own

experiments related to data collected, learning about Marsh, Billings, and Rockefeller, and understanding the environmental impacts of mercury, students presented their findings at the Hopkins Center at Dartmouth College. A reflection of Stainton's experience Park Research can be seen in her comments about the work completed by her students: "These 9th graders presented their authentic science research to the public in a professional and educated manner. I feel honored to teach this group of students, and I am extremely proud of them for aiming high and working hard." An article about the exciting work conducted by Stainton's class can be found at <http://wcsu.net/>.

Both students and teachers felt that their experience at the park through the Park Research Partnership was extremely valuable and authentic. Students were provided with the opportunity to collect real data, connect with nature, and view historic art. These experiences were integrated into traditional classroom objectives such as learning the scientific method and the practical applications of probability. All groups used their experience in the park as a means of connecting with their sense of place and the importance of stewardship. Students felt that their experience in the park provided them with a real opportunity to use many of the seemingly inapplicable skills they learned in the classroom. Lynn Fisher, a high school teacher focusing on salamander monitoring stated that "we have real data and real research questions on which to apply mathematics."

Of the teachers who responded to the Park Research survey, 90% gave the highest rating for the overall support that they received from MBRNHP. Park staff were said to be helpful, well prepared, and accommodating to the needs of teachers. The park's familiarity with the age group and ability to work directly with students were complemented. The availability of resources was also rated highly and teachers felt that specialists were knowledgeable, passionate, and helpful, even providing resources that teachers were unaware they needed.

In the survey response received, all but one teacher was interested in continuing their partnership with the park the following year. These teachers were split fairly evenly as to whether they wanted to continue their current project or work on a new project in the upcoming year. In continuing their projects for subsequent years, teachers had various suggestions, recommendations, and offers. Clarity in regard to expectations and more opportunities to obtain background knowledge on subject areas appeared to be some of the most important concerns. In future work, the MBRNHP is will continue to provide the opportunity for summer coursework and access to park specialists and other resources for continued teacher support and learning.

Of the benefits stemming from Park Research, the teacher's control of lesson plans is considered to be one of the program's greatest benefits. Teachers have ownership of their curriculum, meaning that activities conducted within the MBRNHP can directly tie into lessons taught in the classroom. This approach allows students to get more out of their time at the park since they could see the direct correlation to topics that they were already or simultaneously studying. The advantage of this type of learning was illustrated in the breakdown of visits in the park, as 58 of 68 visits to the park were for Park Research or similar activity [Forest For Every Classroom.] Nearly all the teachers who returned for three or more visits to the park were with Park Research, showing that the program effectively encouraged educators to take advantage of the park.

Increased student visitation to the park not only connected students with MBRNHP, but also helped connect the park with the greater community. Two first grade teachers said that their experience at the park encouraged students to be "more respectful of the environment [and]... involve[ed] parents to awareness of community resource."